ABSTRACT OF THE DISCLOSURE

A cell according to the present invention is a fuel cell for generating an electric power by supplying one electrode with a fuel and the other electrode with an oxidant. In the fuel cell, a catalyst layer is formed on at least one surface of at least one of the one electrode and the other electrode. The catalyst layer is a layer including catalyst particles alone, a layer including a mixture of the catalyst particles and other particles, or a layer of a porous film carrying at least the catalyst particles, and a molecule including an ion–conducting functional group serving as an electrolyte is chemically bonded to a surface of at least one selected from the group consisting of the catalyst particles, the other particles and the porous film. At least one of the electrodes has a thin film electrolyte, a catalyst and an electron conducting substance, thereby suppressing the elution of the electrolyte from the catalyst layer in an electrode part and the accompanying voltage drop.